Claims

1. An activation mechanism for a personal locator beacon, the mechanism comprising: a removable actuator pin; a pin housing fixably attached to the personal locator beacon for removably associating the pin with the locator beacon and a pin withdrawal mechanism for automatically disassociating the pin from the locator beacon in the event of an emergency, withdrawal of the pin causing activation of the personal locator beacon.

2. A mechanism as claimed in claim 1 in which the removable pin and the pin housing are arranged to cooperate with one another by means of mutually engaging members.

3. A mechanism as claimed in claim 2 in which the mutually engaging members form a detent mechanism.

4. A mechanism as claimed in claim 3 in which the detent mechanism comprises a protrusion cooperating with an indentation.

5. A mechanism as claimed in claim 4 in which the protrusion and the indentation comprise cooperating parts of the housing and the pin respectively.

6. A mechanism as claimed in any preceding claim arranged such that the housing may be orientated on the personal locator beacon in one of a plurality of positions according to a desired pin entry/exit angle.

7. A mechanism as claimed in claim 6 in which the housing is orientated with respect to the beacon such that the pin may be withdrawn from the housing in a sideways direction.

8. A mechanism as claimed in claim 6 in which the housing is orientated with respect to the beacon such that the pin may be withdrawn at an angle approximately orthogonal to the sideways direction.

9. A mechanism as claimed in any of claims 6 to 8 in which the variable orientation is provided to account for the variety of possible positions on a flight suit on which the beacon may be worn.

10. A mechanism as claimed in any preceding claim in which the pin is slidably engageable with the housing.

11. A mechanism as claimed in claim 3 or any claim dependent upon claim 3 in which the housing comprises a pin insertion region and a pin reception region into which the pin may be slidably introduced and positively locked into position by means of the detent mechanism.

12. A mechanism as claimed in claim 3 or any claim dependent upon claim 3 in which the detent mechanism comprises a flexible finger forming part of the housing and including a protrusion for engaging with the corresponding indentation in the pin.

13. A mechanism as claimed in claim 12 in which insertion of the pin into the insertion region of the housing causes deflection of the finger and further

insertion of the pin allows the protrusion on the finger to seat within the indentation of the pin.

14. A mechanism as claimed in claim 13 in which the pin includes a deflection ramp which is inclined with respect to the sliding direction of insertion of the pin whereby insertion of the pin into the insertion region of the housing causes the deflection ramp to connect with the housing finger and cause deflection of the finger.

15. A mechanism as claimed in any preceding claim in which means are provided on the housing or the pin or a body portion of the beacon itself to prevent mis-insertion of the pin into the housing.

16. A mechanism as claimed in claim 15 in which the means to prevent mis-insertion comprises suitably arranging the geometry of the pin and the housing so as to only enable insertion of the pin from a desired side of the housing.

17. A mechanism as claimed in claim 16 in which a shoulder is provided internally of the housing to prevent the pin from being inserted into insertion region from the wrong direction.

18. A mechanism as claimed in claim 4 or any claim when dependent upon claim 4 in which the indentation of the pin comprises a V-shaped groove whose formation is arranged to correspond closely to the formation of the finger protrusion.

19. A mechanism as claimed in claim 4 or any claim when dependent upon claim 4 in which the pin, once inserted into the housing, cooperation of the indentation and protrusion is arranged to resist removal of the pin from the housing.

20. A mechanism as claimed in claim 4 or any claim when dependent upon claim 4 in which the geometric configuration of the indentation and protrusion is selected according to a desired resistance to withdrawal of the pin.

21. A mechanism as claimed in any preceding claim in which the pin is provided with engagement means for cooperation with the pin withdrawal mechanism.

22. A mechanism as claimed in claim 21 in which the engagement means comprise a through bore formed in an extension of the pin which is arranged to extend beyond an outer periphery of the housing when the pin is received within the housing.

23. A mechanism as claimed in claim 21 or 22 in which the pin withdrawal mechanism comprises a key ring or like mechanism arranged to extend through the bore formed in the pin and to be joined to an external surface.

24. A mechanism as claimed in any preceding claim in which the pin is arranged to be connected by a leash to a fixed point and, movement of the personal locator beacon away from the fixed point, beyond an extent of the leash causes the pin to be pulled from the housing.

25. A mechanism as claimed in claim 24 in which the pin is arranged to form part of the equipment of air crew and the pin is arranged to be attached by the leash to part of an air craft such that ejection of the pilot from the aircraft causes the pin to disengage from the housing.

26. A method of operating an activation mechanism of a personal locator beacon when the activation mechanism is as claimed in any of claims 1 to 25.

27. A method of operating an activation mechanism of a personal locator beacon when the activation mechanism is as claimed in claim 20 or any claim dependent upon claim 20 comprising varying resistance to the withdrawal of the pin from the mechanism.